

disadvantage or benefit to the patient ? Does it imply that a very large proportion of the organisms present are destroyed within a few hours ? Or does its occurrence merely suggest that one individual harbours many more organisms than another, or that the individual is more reactive ? We cannot tell. We do know however that the occurrence of this reaction in the course of standard syphilis therapy has a capricious incidence and that it is sometimes absent in cases in which, with some little confidence, we had expected it to occur.

Among the features of special interest in the reports of the use of penicillin in the treatment of early syphilis is the occurrence of the familiar type of Jarisch-Herxheimer reaction in an astoundingly large proportion of the cases so treated. In a series of 100 cases reported upon by Mahoney, Arnold, Sterner, Harris and Zwally, 87 per cent of the patients responded with this reaction. In a recent publication Moore and his colleagues report a Jarisch-Herxheimer reaction in 846 out of 1,418 cases (59 per cent) within the first 24 hours of penicillin therapy. In 685 cases the reaction consisted of pyrexia only ; in 161 cases there was an exacerbation of the secondary syphilitic lesions with or without fever.

This frequent occurrence in treatment with penicillin—a compound which is itself devoid of toxic reactions—will certainly have the effect of stimulating a wider interest in the meaning of the Jarisch-Herxheimer reaction. No doubt a deeper understanding of its rationale will develop before long. It is not unlikely that careful records of the character and extent of the reaction may eventually be of some considerable value in the assessment of the response of syphilitic infection to treatment and perhaps in arriving at an ultimate prognosis.

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REVIEWS OF BOOKS

Sex Education. Cyril Bibby, M.A., M.Sc., F.L.S. 290 pp. Macmillan & Co., Ltd., London, 1944. Price 7s. 6d.

The author of this book is the Education Officer of the Central Council of Health Education and has a wide experience and practical knowledge of the many problems involved in this important and previously neglected branch of education. The book is written as "A Guide for Parents, Teachers and Youth Leaders" and fulfils its purpose admirably. Parents are rightly placed first, since theirs is the responsibility of laying sound foundations for all future building. If there are any who doubt this, the chapter which deals with questions in the home put by young children will do much to convince them. It is emphasized that accurate answers according to the child's understanding at each stage of development are not in themselves sufficient to ensure a right attitude towards sex. Children absorb more from the happy atmosphere in a united family—or the reverse—and from the example of parents than from the spoken word.

The book is divided into eight chapters : The Problem Posed, The Social Setting, The Parent's Part, The School Curriculum, Sex Problems in the School, In the Service of Youth, In Search of Knowledge, Educating the Educators. This last is most topical and deals with present needs in a realistic and constructive manner.

There is inevitably some degree of repetition as the various stages of educating the young are considered. The essential need for factual information to have been given before the sometimes turbulent emotions disturb the adolescent is rightly emphasized. Greater stress might have been laid on the harnessing of the adolescent sex energy into other channels, and on the way in which the high ideals of this stage may be preserved and expanded as part of a practical religion.

As venereologists we should agree with the author that, as an introduction, it is desirable to include mention of gonorrhoea and syphilis when dealing with other infections in the biology course, rather than to bring them into school lessons on reproduction. Another early opportunity occurs in talks on health and hygiene when the venereal diseases may be included with other communicable diseases. Later still comes the need for full talks on venereal diseases.

The appendices contain much useful material and suggestions, including a tentative scheme in tabulated form for sex education from infancy to parenthood. There are also four specimen

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lectures. Finally the "Guide to Further Reading" gives to all those who wish to study more fully a comprehensive list of books dealing with the various aspects of sex education in all its stages. This is certainly a book to be recommended to all who are responsible for training and educating the young of today.

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GNOCOCCAL FIXATION TEST

Sir,—The letters in your September issue from Brig. T. E. Osmond, and Dr. I. N. Orpwood Price, attacking me on so many points, call for some reply.

Brig. Osmond asks me to produce "concrete evidence" in support of my considered opinion that "infections in the male urethra are never limited to the anterior urethra, and that the posterior urethra is involved even during the incubation period of the disease". There is no anatomical barrier which limits the extension backwards, and a study of the pathology of gonorrhoea shows that gonococci have been found in the subepithelial connective tissue on the third day after inoculation (Finger, Ghon and Schlagenhauser) and on the fourth day (Jacoby). Bumm also reports that there is a marked reaction in the subepithelial connective tissue of the conjunctiva even during the first 24 hours. Bumm and Bockhart both state that gonococci, after penetrating the intercellular spaces of the columnar epithelium, pass not only into the subepithelial connective tissue but also directly into the lymphatic vessels; they may also pass directly into the blood stream. Judged by the work of others and by my own observations, extension of infection backwards to the posterior urethra rarely occurs by the slow contiguous epithelial route. Barrington and Wright, too, have shown us the rapidity (2-7 minutes) of the development of bacteraemia after urethral trauma. Kenneth Walker found organisms in the seminal vesicles, prostate and epididymides in guinea-pigs killed 10 hours after a loopful of organisms had been placed in their anterior urethrae; organisms were found also in the lymphatic vessels. I trust that Brig. Osmond will consider this evidence to be concrete.

There are several misstatements in Dr. Price's letter. He has never asked me to visit him at the Whitechapel Clinic, neither has he done the majority of my tests. In my letter I stated that "during the last seven years Dr. Price himself has performed them on the majority of my private patients and on a small number attending me at hospital"; more than 60 per cent of the tests have been carried out elsewhere. In view of Dr. Price's dogmatic statements on the efficacy of the gonococcal fixation test, I sought his help in an endeavour to ascertain whether his results were a more helpful guide in the diagnosis and treatment of gonorrhoea and its complications; the results have been disappointing.

I, too, had read Supplement No. 8 to *Veneral Disease Information*; indeed in my letter in the June number of the *Journal*, I quoted Carpenter as reporting non-specific reactions to be as high as 71 per cent. In 1937 Jacoby and Wishengrad (to quote further from the Supplement) in an earlier paper than the one I mentioned in my letter, reported comparative studies on the same sera, using in one the technique of Koopman and Falker and in the other that of Price. Both methods were reported as showing imperfect specificity. A more recent assessment of the G.C.F.T. in the United States of America is that of Lever and Crawford, who state that "because of its unreliability no laboratory in Boston performs this test any more".

Dr. Price asserts that "it seems redundant to suggest that no experienced clinician would diagnose any disease on the strength of a pathological report". He does not appear to realize that the dogmatic statements in his reports concerning positive reactions, even when they are doubtful (\pm), as being definite evidence of infection, are misleading many general practitioners, who are now treating, very effectively, many cases of gonorrhoea and its complications.

Dr. Price states that my reasons for asserting the persistence of gonococcal antibodies in the blood serum for many years after infection are not apparent and that there is some evidence to the contrary. I would add that there is also evidence in support of my contention that antibody production may continue in the absence of antigen. The lifelong persistence of immunity against measles and yellow fever is well known, Sawyer having detected yellow fever antibody in the blood serum of a patient 78 years after infection; immunity to diphtheria and scarlet fever may also be lifelong. Burnet considers that "there is no reasonable escape from accepting the long-lasting immunity as something induced by the infection, but maintained by the body after all the virus has been destroyed". Antibody production is a function not only of the cells of the reticulo-endothelial system already stimulated but also of their descendants, and this antibody-producing mechanism is transmitted by some hereditary process. Burnet also states that injections of non-specific proteins in an immunized animal may produce a rise in titre of the original antibody, which is in agreement with the observation which I made concerning the occurrence of positive gonococcal fixation test results in cases in which the patient shows complete drug resistance after non-specific protein therapy.

Brig. Osmond misquotes me when he states that 110 cases of ano-rectal gonorrhoea gave positive results. I said that positive results were obtained in 8 cases only, two of which had a previous history of gonococcal urethritis and may have been followed by persistent positive reactions. I still maintain that the remaining 6 were in all probability false. I mentioned the results of the G.C.F.T. in ano-rectal gonorrhoea in the male, because I had not found any